

WHAT IS CLAIMED IS:

1. A method of determining whether a sample includes at least one analyte of interest, said method comprising:

5 (a) contacting said sample with an array of a plurality of distinct binding agents displayed on a surface of a solid support, wherein each of said binding agents at least comprises a specific epitope binding domain of an antibody;

10 (b) detecting the presence of any resultant binding complexes on said surface to obtain analyte binding data; and

15 (c) employing said analyte binding data to determine whether said sample includes said at least one analyte of interest;
wherein said method provides a sensitivity of at least 10pg/ml of analyte of interest when said analyte is directly fluorescently labeled.

15 2. The method according to Claim 1, wherein said sample is contacted with said array in the presence of a metal ion chelating polysaccharide.

20 3. The method according to Claim 2, wherein said metal ion chelating polysaccharide comprises polygalactouronate domains.

4. The method according to Claim 3, wherein said metal ion chelating polysaccharide is a pectin.

25 5. The method according to Claim 4, wherein said pectin is apple pectin.

6. The method according to Claim 1, wherein said method further comprises extracting said at least one analyte from a cellular source and labeling said

extracted at least one analyte, wherein said extracting and labeling steps employ the same buffer composition.

7. The method according to Claim 6, wherein said buffer composition is free of components that include primary amine moieties.
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8. The method according to Claim 7, wherein said buffer composition has a pH ranging from about 7 to about 12.
- 10 9. The method according to Claim 8, wherein said buffer composition is capable of extracting at least about 95% of the proteins of an initial cellular source.
- 15 10. The method according to Claim 1, wherein said at least one analyte is a protein.
11. The method according to Claim 1, wherein said method comprises determining the presence of at least two distinct analytes in said sample.
- 20 12. The method according to Claim 1, wherein said method comprises a plurality of washing steps between said contacting and detecting steps.
13. The method according to Claim 1, wherein: (a) said method comprises quantitatively detecting at least two different protein analytes in said sample; (b) 25 said sample is contacted with said array in the presence of a metal ion chelating polysaccharide; (c) said method further comprises extracting said at least one analyte from a cellular source and labeling said extracted at least one analyte, wherein said extracting and labeling steps employ the same buffer composition;

and (d) wherein said method comprises a plurality of washing steps between said contacting and detecting steps.

14. The method according to Claim 13, wherein said metal ion chelating polysaccharide comprises polygalactouronate domains.

5 15. The method according to Claim 14, wherein said metal ion chelating polysaccharide is a pectin.

10 16. The method according to Claim 15, wherein said pectin is apple pectin.

17. The method according to Claim 13, wherein said method is a method of determining a protein expression profile for said sample.

15 18. The method according to Claim 1, wherein said method further comprises a sample fractionating step prior to said contacting step.

19. The method according to Claim 18, wherein said fractionating step comprises contacting said sample with at least one affinity column.

20 20. A kit for determining whether a sample includes at least one analyte of interest, said kit comprising:

25 (a) an array of a plurality of distinct binding agents displayed on a surface of a solid support, wherein each of said binding agents comprises at least a specific epitope binding domain of an antibody; and
(b) an incubation buffer that includes a metal ion chelating polysaccharide.

21. The kit according to Claim 20, wherein said metal ion chelating polysaccharide comprises polygalactouronate domains.

22. The kit according to Claim 21, wherein said metal ion chelating polysaccharide is a pectin.

5 23. The kit according to Claim 22, wherein said pectin is apple pectin.

24. The kit according to Claim 20, wherein said kit further comprises an extraction/labeling buffer.

10 25. The kit according to Claim 20, wherein said kit further comprises at least one washing buffer.

15 26. The kit according to Claim 20, wherein said kit further comprises a labeled reagent capable of specifically binding to a binding complex of a surface displayed binding agent of said array and said at least one analyte of interest.

20 27. The kit according to Claim 26, wherein said labeled reagent comprises an epitope binding domain of an antibody.

28. The kit according to Claim 20, wherein said kit comprises a fractionating column.

25 29. A system for determining whether a sample includes at least one analyte of interest, said kit comprising:

(a) an array of a plurality of distinct binding agents displayed on a surface of a solid support, wherein each of said binding agents comprises at least a specific epitope binding domain of an antibody;

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(b) an incubation buffer that includes a metal ion chelating polysaccharide; and

(c) a detector for detecting binding complexes on said array.

5 30. The system according to Claim 29, wherein said metal ion chelating polysaccharide comprises polygalactouronate domains.

31. The system according to Claim 30, wherein said metal ion chelating polysaccharide is a pectin.

10 32. The system according to Claim 31, wherein said pectin is apple pectin.

33. The system according to Claim 29, wherein said system further comprises an extraction/labeling buffer.

15 34. The system according to Claim 29, wherein said system further comprises at least one washing buffer.

35. The system according to Claim 29, wherein said system further comprises 20 a labeled reagent capable of specifically binding to a binding complex of a surface displayed binding agent of said array and said at least one analyte of interest.

36. The system according to Claim 35, wherein said labeled reagent 25 comprises an epitope binding domain of an antibody.

37. The system according to Claim 29, wherein said detector comprises a fluorescence scanner.

38. The system according to Claim 29, wherein said system comprises a fractionating column.

39. An array of a plurality of distinct binding agents each comprising an epitope binding domain of an antibody, wherein said binding agents are covalently attached to a surface of a glass substrate via a sulfone linking group.

40. The array according to Claim 39, wherein said array comprises at least 20 distinct binding agents each having an epitope binding domain of an antibody listed in the Antibody Table, above.

41. The array according to Claim 40, wherein each of said binding agents is a monoclonal antibody.

42. The array according to Claim 41, wherein each of said monoclonal antibodies has an affinity for its analyte of at least about 10^{-6} .

43. The array according to Claim 39, wherein said array is a blocked array that has been stored for a period of at least about 1 week and is still capable of being used in a method according to Claim 1.

44. A method of making an array of binding agents according to Claim 39, wherein said method comprising:
providing an aminated glass slide;
activated said aminated glass slide with DVS; and
contacting said activated glass slide with at least two different binding agent compositions to produce said array of binding agents.